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ABSTRACT

Success in school and life are more dependent than ever before on literacy skills. Within the context of California's Proposition 10, the "Children and Families First Act," this report provides practical, and to the extent possible, evidence-based guidelines for considering strategies to promote children's development relevant to emergent literacy from birth to age 5. Following an introduction, the report summarizes the findings and recommendations of the Committee on the Prevention of Reading Difficulties in Young Children (Burns, Snow & Griffin, 1999) that address known developmental and experiential precursors to literacy and recognized risk factors for illiteracy. The report next discusses examples of systems and programs that may serve as models for promoting early literacy. Sociocultural factors influencing literacy development are also examined. The report then presents recommendations for best practices and policy in literacy and, relevant to Proposition 10 commissions, for developing services to enhance literacy programs. The report's appendix lists useful organizations and contacts. (Contains 88 references.) (HTH)

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Building Community Systems for Young Children

Building Community Systems for Young Children is a series of reports designed to support the implementation of Proposition 10: The California Children and Families Act. Each installment is written by a team of experts and provides comprehensive and authoritative information on critical issues concerning young children and families in California.

June 2001

Reading and Early Literacy

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Reading and Early Literacy

I. Introduction

Success in school and life in today's society is more dependent upon literacy skills than ever before. Although most children in this country learn to read, several issues bring our attention to the promotion of literacy achievement at this time. A complex technological society demands increasingly greater competency in literacy skills for economic and social success. Historically, high illiteracy rates in certain segments of the population have been persistent. There are also some sobering trends regarding literacy achievement across the nation, but particularly in California. These were summarized by G. Reid Lyon in a recent statement to the Committee on Labor and Human Resources (1998):

> While failure to learn to read adequately is much more likely among poor children, among nonwhite children, and among nonnative speakers of English, recent data derived from the National Assessment of Educational Progress (1994) reveals an alarming trend. In the State of California, 59% of fourth grade children had little or no mastery of the knowledge and skills necessary to perform reading activities at the fourth grade level, compared to a national average of 44% below basic reading levels. Even more alarming, is that this evidence of serious reading failure cuts across all ethnic and socioeconomic variables. While 71% of African-Americans, 81% of Hispanics and 23% of Asians were reading below basic levels, 44% of white students in the fourth grade were also below the basic reading level necessary to use reading as a skill. Moreover, 49% of the fourth grade children in California who were reading below basic levels were from homes where the parents had graduated from college. In fact, the children of college-educated parents in California scored lowest with respect to their national cohort. These data underscore the fact that reading failure is a serious national problem and can not simply be attributed to poverty, immigration, or the learning of English as a second language.

Few would argue that literacy achievement is a public policy matter of the highest priority. An important question is, do the first years of life provide an opportunity to address this important issue? This period of life is an important time for brain growth and development, a time when optimal learning experiences can make a difference in children's later academic and social function (Shonkoff & Phillips, 2000). There is substantial evidence that literacy achievement in the early school years is closely tied to the quality of literacy-related experiences and language development in early childhood (Burns, Snow & Griffin, 1999).

In this paper, we provide practical, and to the extent possible, evidence-based guidelines for considering strategies to promote children's development relevant to emergent literacy from birth to 5 years of age. First, we summarize the findings and recommendations of the Committee on the Prevention of Reading Difficulties in Young Children (Burns, Snow & Griffin, 1999) that address known developmental and experiential precursors to literacy and recognized risk factors for illiteracy. Next, we discuss examples of systems and programs that may serve as models for

promoting early literacy. Finally, we provide guidelines for best practices and policy in this area and recommendations for developing services to enhance early literacy programs.

II. Background

The information that follows draws heavily from two recent publications from the National Research Council: Preventing *Reading Difficulties in Young Children* (Burns, Snow & Griffin, 1998) *and Starting Out Right: A Guide to Promoting Children's Reading Success* (Burns, Snow & Griffin, 1999). These publications summarize what is known and agreed upon with respect to how reading develops and how reading instruction should proceed. This section selectively highlights key findings and recommendations relevant to early literacy, i.e., as they pertain to children from birth through 5 years of age. This will provide a background for later discussion on how funds provided through Proposition 10 might be directed to optimize the early developmental experiences of children that affect literacy achievement in school and across the life span.

Literacy Development and the Preschool Years

Reading research and reading education have been among the most hotly contested areas in education over the past century. Teachers and researchers have been involved in this controversy, but even the public at large knows about disagreements surrounding different approaches to reading education — phonics, decoding, whole language, whole word methods, and so on. Although many issues remain controversial, researchers and professionals have begun to establish a common, comprehensive framework for reading development and how best to promote it. This section provides an overview of this emerging consensus, with particular application to policy and practice for children from birth to 5 years of age.

What do successful readers do? Reading is a complex act that requires many years of experience and use in order to do well. Many "models" of reading have been offered, each attempting to describe the essential components of skilled reading. Reading can be described at many levels, from the neurological to the psychological to the sociological. It is useful to think of skilled *English* readers as individuals who:

- understand and use the "*alphabetic principle*," that is, how the sounds of spoken speech can be represented by letters in the alphabet and how letters are used to identify printed words;
- have and use background knowledge, knowledge of words, and comprehension strategies to obtain meaning from print;
- read fluently and effortlessly, except when they come across unfamiliar text, when they consciously use the alphabetic principle and comprehension strategies to make sense of what they are reading; and
- are motivated to do all of the above on a regular and sustained basis.

Although we often think of reading as being essentially the first component listed above (using letters in words to read or pronounce words), skilled reading involves much more. Successful readers attend to all the relevant dimensions of reading, not simply word recognition, as important as it is. Successful

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reading (and writing) also involves comprehension, fluency, mastery of essential strategies, and motivation.

Moreover, and contrary to many popular beliefs, reading is not natural, unlike oral language. Oral language evolved with humans on the African plains thousands of years ago (estimates range from 30,000 to more than a million years). Written language is a much more recent invention, first appearing in advanced societies a little over 5,000 years ago. With the exception of some deaf communities that rely entirely on sign language, almost all human societies have oral language; however, not all have written languages. Children in an environment where they hear language will develop oral language naturally, unless there is a severe neurological disorder. *The presence of reading and writing in a child's environment, while necessary for literacy development, does not guarantee that a child will learn to read and write.* And certainly in the absence of printed matter, there is no chance children will acquire, much less invent, written communication. There have been documented cases of children who appear to learn to read "naturally," that is, essentially on their own and with no one having made an explicit attempt to teach reading and writing skills. But these are the exceptions. *Most children need explicit teaching, and some children need more than others do.*

It is important to point out that learning to read English presents particular challenges not seen in other languages and reading systems. English is based upon the alphabetic principle. Alphabetic systems (as opposed to syllabic systems such as Japanese) represent sounds that are meaningless in and of themselves but which acquire meaning when the sound units are combined. The English alphabetic system has other peculiarities that increase its complexity to the novice reader. For example, letters can represent more than one phoneme (e.g., "c" in metric vs. face). English has also retained a variety of historical spellings, such as the "gh" in "weight." Reading is more straightforward in other alphabetic systems where the letter-to-sound correspondence has been retained and words are spelled as they sound, e.g., as in Spanish.

How do literacy skills develop? Skilled reading and writing do not appear magically at some point in a person's life. Instead, they are the culmination of a developmental process with roots in infancy. Although measuring reading and charting its development cannot be done as precisely as we can chart physical development, there are certain predictable dimensions and milestones beginning in the preschool years. If children progress along these dimensions and demonstrate these milestones, there is an excellent chance they will be successful readers; if they do not, there is increased risk of reading difficulties when children enter elementary school and begin formally to learn to read and write. The following charts provide a few examples of these milestones (or developmental accomplishments), broken down into three preschool ages: birth to 3 years old, 3-4 years old, and 5 years old (adapted from *Preventing Reading Difficulties in Young Children*, 1998; *Starting Out Right*, 1999):

Birth to 3 Years Old

- ✓ recognize specific books by their cover
- ✓ pretend to read books
- ✓ engage in book-sharing routines with parents or other caregivers
- ✓ enjoy rhymes, songs, and nonsense word play
- ✓ are increasingly attentive to the beginning or rhyming sounds in words
- ✓ label objects in books
- ✓ listen to stories; ask and answer questions
- ✓ begin to scribble or "pretend write"
- ✓ begin to produce some letter-like forms with some features of English writing (or of the child's primary language)

3 to 4 Years Old (Preschool)

- ✓ know that alphabet letters are a special category of visual graphic and can be individually named
- ✓ recognize environmental print
- ✓ know that print is read when reading stories
- ✓ pay attention to separable and repeating sounds (e.g., the /p/ in Peter Peter Pumpkin Eater)
- ✓ understand and follow oral directions
- ✓ know and recite nursery and other types of rhymes
- ✓ show an interest in books and reading
- ✓ when hearing a story, make connections between information or events in the story and own life experiences
- ✓ can identify at least 10 alphabet letters
- ✓ engage in increasing amount of scribble or pretend writing;
- ✓ can remember story events and sequences; ask questions and make comments demonstrating understanding of story being read

5 Years Old (Kindergarten)

- ✓ know the parts of a book and their functions
- ✓ begin to track print when listening to familiar text being read or when rereading own writing
- ✓ "read" familiar texts emergently, i.e., not necessarily verbatim from print alone
- ✓ recognize and can name all uppercase and lowercase letters
- ✓ understand that the sequence of letters in a written word represents the sequence of sounds (phonemes) in a spoken word (alphabetic principle)
- ✓ learn many one-to-one letter sound correspondences
- ✓ recognize some words by sight
- ✓ use new vocabulary and grammatical constructions in own speech
- ✓ make appropriate switches from oral to written language situations
- ✓ notice when simple sentences fail to make sense
- ✓ connect information and events in texts to life and life to text experiences
- ✓ retell, reenact, or dramatize stories or parts of stories
- ✓ listen attentively to books teacher reads to class
- ✓ can name some book titles and authors

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In general, the first 5 years of life comprise the pre-reading stage of literacy development. During the first 3 years, children learn to speak and understand language. Thereafter, children learn to make connections with the symbolic aspects of language, i.e., reading and writing and this age-related development is referred to as "emergent literacy" (Teale & Suzby, 1986). Experiences during this period, with books and print in particular, give children important background knowledge, help children learn the purposes of reading and writing, and promote the learning of the alphabet, concepts about print, and the acquisition of phoneme awareness (see below).

The importance of language. Early language development is an important indicator of later reading proficiency, and environmental factors are important influences on the development of various aspects of children's language (Hart & Risley, 1998; Snow, 1994). For example, the relationship between vocabulary size and reading ability is well-known. A highly verbal language environment, i.e., with substantial adult talk to children, is a strong predictor of children's vocabulary growth and later comprehension and production tasks (Beals et al., 1994; Huttenlocher et al., 1991). Children of lower-class families receive less of this input than their middle-class peers, learning fewer words more slowly (Hart & Risley, 1998; Hoff-Ginsberg, 1991). Other aspects of language processing, including the perception of speech, naming vocabulary, and short-term memory skills (e.g., recalling word sequences) have been shown to distinguish good and poor readers (Bowers & Wolf, 1993; Brady, Shankweiler, & Mann, 1983; Mann & Liberman, 1984).

Phonological and phonemic awareness, which refer to the abilities to recognize spoken languages as sequences of words and words as sequences of sounds, respectively, are of particular importance for alphabetic languages like English. Because phonemes are sound units that can be represented by letters of the alphabet, this skill is critical to understanding the alphabetic principle and, therefore, to word recognition (word decoding) and spelling. The awareness of phonemes and syllables develops substantially between 4 and 6 years of age (Liberman et al., 1974). Nursery rhymes, songs, rhyming games, and other language play are activities that nurture these abilities. Numerous studies have documented the relationship between deficits in phoneme awareness and reading problems (see Beitchman and Young, 1997, and Mann, 1998 for reviews).

In summary, the evidence strongly suggests a causative link between language development, language processing skills (phoneme awareness in particular), and later reading ability and reading problems. The strong link between language development and reading and the evidence that language problems are indicators of early reading problems (Baker & Cantwell, 1987; Beitchman et al., 1996; Silva et al., 1987) suggest strategies for prevention. Close attention to the early language environment of children, with efforts to promote the richness of children's verbal experiences e.g., through shared book reading (High et al., 2000), is a potentially effective intervention to optimize children's language development and emergent literacy skills. Close monitoring of children's language development is a potentially important activity to detect language disorders as early as possible. At the present time, no effective strategy has been developed for this purpose and language disorders are significantly underdiagnosed (Toppelberg & Shapiro, 2000).

Impediments to Developing a Foundation for Successful Reading and Writing

Definition of reading disabilities. Before addressing impediments to successful reading, it should be noted that how a reading disability is defined is somewhat controversial. Definitions included in the current Individuals with Disabilities Education Act (IDEA) and the Diagnostic and Statistical Manual-IV (DSM-IV) emphasize a cognitive processing disorder and a significant discrepancy between academic reading potential (e.g., as measured by IQ testing) and reading achievement. This definition essentially identifies two groups of poor readers – those who read poorly in comparison to their IQ (dyslexia) and those who read poorly compared to their age. This definition has been called into question over the past decade, particularly in light of the observation that most poor readers, regardless of IQ, have phonological processing difficulty (Toppelberg & Shapiro, 2000). Furthermore, new evidence suggests that reading ability falls along a continuum, in contrast to the previous conceptualization that viewed dyslexia as a distinct disorder (Shaywitz, 1998).

From a practical standpoint, basing the definition of dyslexia upon a discrepancy between reading potential and reading achievement has implications for intervention. The definition tends to overidentify bright children as reading disabled and underidentify low-achieving children with borderline IQ scores as not reading-disabled. Indeed, it is the latter group that may be in greater need of services. Furthermore, the IQ-discrepancy definition requires that a child fail academically before services are delivered. On the other hand, identification of relevant cognitive deficits, e.g., phonological processing difficulty, at school entry facilitates early intervention and allows targeted remediation. In spite of these criticisms of IQ-discrepancy definitions, a consensus does not exist on how reading or other learning disabilities should be defined.

Etiology of reading disabilities. Exactly how and why children develop reading difficulties is not completely understood. It is presumed that, in all cases, biological factors interact with experiential factors. Genetic studies highlight the heritability of reading problems and neuroscience research has implicated specific areas of the brain that are different in children and adults with reading disorders (Beitchman & Young, 1997). There is definitely a consensus that language problems, are a key determinant of early reading problems as noted above. Other child risk factors include cognitive (e.g., mental retardation) or sensory limitations (e.g., hearing impairment) and attention deficit hyperactivity disorder (ADHD).

Child Risk Factors for Reading Difficulty

- Cognitive impairment
- Hearing impairment
- Specific language impairment
- Attention deficit hyperactivity disorder

Socioenvironmental risk factors that affect reading development include poverty (especially living in a neighborhood and attending school with a high concentration of students and families in poverty), ineffective schools and classrooms, and low language and literacy levels at home (which

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are confounded with poverty). Children from less supportive environments are less likely to receive important experiences and are more likely to encounter difficulty in understanding and using the alphabetic principle, acquiring and using effective comprehension skills, and achieving or maintaining the motivation to read well. Although low literacy at the high school level characterizes many students from all subgroups, African-American, Hispanic, and Native American children are more likely to graduate from high school with very low literacy levels (Natriello, McDill, & Pallas, 1990).

Socioenvironmental Risk Factors for Reading Difficulty

- Poverty
- Ethnicity: African American, Hispanic, Native American
- Low literacy levels in the home
- Ineffective schools and classrooms

III. Optimizing the Development of Early Literacy

Important Experiences

We must think carefully about the sorts of experiences we provide children in order to encourage their learning to read and write, particularly for children at risk for reading difficulties. From birth to age 5, key experiences at home and in preschool and kindergarten can increase the likelihood that children will be successful in learning to read and write once they enter elementary school. These experiences must promote the skills, understanding, and disposition that help build a foundation for skilled reading. Examples of experiences that contribute to this foundation are listed below.

Teachers, community leaders, physicians, social workers, and all others concerned about the health and well-being of children must make it a priority to ensure that all children's caregivers, in and out of the home, have the knowledge, skills, and material resources to provide children with these experiences. They are essential for laying a foundation for literacy in elementary school and thereafter.

Important Early Experiences for the Development of Literacy

- ✓ Reading to children and talking about what is being read
- ✓ Having a wide assortment of children's books available and in use
- ✓ Having ready access to paper, pens, pencils, and markers for children to play and experiment with
- ✓ Learning the alphabet and to recognize letters
- ✓ Learning rhymes and songs
- ✓ Playing with the sounds of language (rhyming or guessing games, e.g., whose name begins with "m?")

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Early Childhood Programs

Several programmatic efforts targeting the optimal development of children and children's literacy have been developed and evaluated. Collectively referred to as early childhood interventions, they consist of both small-scale model programs and large-scale public programs. Most programs have targeted children who are in disadvantaged social circumstances. A wide variety of services are employed, including health care, home visitation, center-based child care, social services, and preschool programs. Model programs are generally of higher quality and are implemented and evaluated under more tightly controlled circumstances. In addition to these programmatic efforts are research investigations examining the influence of day care on children's development as well as specific experimental approaches toward the enhancement of literacy-related skills.

There are several excellent reviews of early intervention programs designed to enhance the development of young children prior to school entry (e.g., Barnett, 1995; Karoly et al., 1998). These are discussed for Proposition 10 programs in this series by Stipek and Ogawa (2000). The following discussion highlights some examples of early intervention programs as they affect outcomes relevant to literacy skills.

Family Literacy Interventions. In family literacy programs, both adult and child family members receive services to enhance literacy within families. Services include adult and early childhood educational services and parenting education. Evaluations of both private and federal programs have identified gains in measures of adult education, quality of the home environment, and parenting. The national evaluation of the federal family literacy program Even Start in the mid-1990s (St. Pierre et al., 1995) suggested that it had a positive influence on the availability of reading materials in the home, parents' expectations of their children's success in school, and skills related to school-readiness. However, for both adults and children, the effects were either similar to control groups that had not received the Even Start intervention, or, in the case of children, the control group had caught up with the Even Start group by the start of formal schooling (St. Pierre et al., 1995).

Head Start literacy program. Neuman et al. (1995) studied a literacy-specific intervention with parents of children attending a public Head Start program. Books were provided to families, and parents were taught to use storybook reading strategies that enhanced interaction with the child and to extend the reading to include precursors to reading. In the group receiving the intervention, storybook reading became more interactive, and print concept scores[1] and receptive language scores[2] increased compared to those of children who did not receive the intervention.

High/Scope Perry Preschool (Schweinhart et al., 1993). The High/Scope Perry Preschool provided weekly home visits and preschool classes to children ages 3 years through 5 years. The intervention group consistently scored better than controls on the reading subtest of the California Achievement Test, effects that appeared to grow over time. The intervention group also had fewer special

1 Print concepts include an understanding of the conventions that govern written language, e.g., that there are spaces between words, that sentences proceed from left to right and from the top of the page to the bottom.
2 Receptive language refers to a child's understanding of language spoken to him or her.

education placements for mild mental retardation and spent fewer years in special education than controls. Social and educational benefits extended into adulthood.

Abcedarian Project (Campbell & Ramey, 1994). This program gave children in the experimental group an enriched center-based day care experience stressing language and cognitive development beginning in infancy through age 5 years. Subjects were children from families selected on the basis of social risk factors (low maternal education, low income, etc.). Children in the experimental group had higher reading achievement from age 8 years through 15 years.

Preschools

Participation in preschool has been related to later success in school (Pianta & McCoy, 1997; National Center for Education Statistics, 1995). Preschool programs can produce large effects on later school achievement, among other favorable outcomes (Barnett, 1995). The *quality* of the preschool experience is an important factor in this regard (see Stipek and Ogawa, 2000). Children in enhanced preschool environments show gains in literacy skills that include print concepts, narrative competence, receptive vocabulary,[3] writing concepts, knowledge of letter names, andmeasures of phonemic awareness, all important precursors of later literacy (Clay, 1979; Dunn & Dunn, 1981; Maclean et al., 1987; Purcell-Gates & Dahl, 1991; Purcell-Gates, 1996).

Other Experimental Interventions

Reach Out and Read. This pediatric office program encourages book sharing in families beginning in infancy. It consists of three components: volunteer readers in the waiting room, counseling about literacy development by pediatricians, and the distribution of books to families. Several evaluations of the program have demonstrated that the intervention increases book-sharing activities in the family, particularly for low-income and Hispanic families (Needlman et al., 1991; Golova et al., 1999; High et al., 1998, 2000).

Dialogic reading is a technique that targets language and literacy specifically. With this technique, the adult helps the child become a teller of the story (as opposed to a passive listener). In a controlled study, children receiving the intervention made gains in language development and concepts of print (Whitehurst et al., 1994) that persisted through kindergarten. However, no effects were demonstrated for first- and second-grade reading achievement.

Phonological Awareness Training. Just as phoneme awareness was an important indicator of reading problems, interventions targeting this modality appear promising for the remediation of reading problems. Strategies involve using word play with nursery rhymes to promote skill in analyzing, segmenting, and blending of phonemes (e.g., Blachman et al., 1994; Cunningham, 1990;

3 A receptive vocabulary is that vocabulary which the child understands but may not necessarily express him/herself. For example, a child may point to a picture of a dog when asked to do so, but may not say the word "dog" in response to the question "What's this a picture of?" He/she knows the word "dog" but can't yet use it expressively.

Torgesen & Davis, 1996). To be maximally effective, training in phonological awareness should be accompanied by training in letters and sound associations as well (Brady et al., 1994).

Summary. The programs and evaluations cited demonstrate that measurable impacts can be made through a variety of early intervention modalities. However, this group of studies is a very selective one, intended to be exemplary rather than comprehensive. Furthermore, although the evaluations suggest impacts or effects that can be measured with statistical precision, it is another matter to make a leap from research to actual practice. The effectiveness of these types of programs in real-world settings is less certain.

IV. Sociocultural Factors

Socioeconomic Status and the Literacy Gap

As encouraging as many of these studies are, intervention programs by themselves have not closed the literacy gap associated with significant socioeconomic differences among students. The effects of family literacy programs (St. Pierre et al., 1995) tend to be modest, showing, for example, *statistically significant early gains* in measures of language and preschool-readiness skills (0.9 standard deviation) that tend to "wash out" over time. In other words, children not receiving program services tend to catch up by the start of school. The effects of emergent literacy programs are similar (Whitehurst et al., 1994): As Whitehurst et al. note, "It is clear that children who begin Head Start, on average, a standard deviation behind other children of their age will need more than an add-on emergent literacy curriculum to close the gap completely." The Abecedarian Project (Campbell & Ramey, 1994) and Success for All (Miller, 1995) are both clearly much more than an "add-on emergent literacy curriculum," and their effects appear to be considerably stronger, but these programs also have been unable to close the social-class gap. Other examples of successful literacy interventions with different populations of disadvantaged school-age students are provided by Becker and Gersten (1982), Gersten (1984), Goldenberg and Gallimore (1991), Goldenberg and Sullivan (1994), and Tharp and Gallimore (1988). All demonstrate that we have the wherewithal to improve literacy attainment among children at risk for reading problems.

But it is still an open question whether effective school and classroom practices developed to date can completely overcome the effects of poverty. Miller (1995) concludes that "there is little evidence that any existing strategy can close more than a fraction of the overall achievement gap between high- and low-SES children" (p. 334). Using Success for All as a telling example--since it is the most successful of the current school reform models designed to improve reading achievement in Title I schools--Miller points out that the program can raise overall achievement levels from approximately the 30th to the 46th percentile. These are noteworthy gains, to be sure. But the level of attainment is still "below middle-class and upper-middle-class performance norms" which are typically well above the 50th percentile on nationally normed tests (Miller, 1995, p. 331). There can be little doubt that *comprehensive* solutions are needed if we are to erase literacy discrepancies rooted in social and economic inequalities. Instructional programs are important, certainly, but they can be only part of the answer.

We should not delude ourselves about the enormity of the task. This is what Lisbeth Schorr and others who argue for integration of programs, policies, and services — the school being but one of many agencies implicated — maintain:

> "Everyone agrees that it takes a village to raise a child. But in the inner city, the village has disintegrated. That is why we need bold and comprehensive strategies. Incrementalism will not do it. There are chasms you cannot cross one small step at a time" (Schorr, 1994, p. 237).

Nonetheless, effective teaching, schools, and programs influence student achievement. There is no longer any doubt about this. It matters whether a school's overall achievement level is at the 30th or 46th percentile, even if such a shift does not entirely erase class-based discrepancies. At a minimum it is well within educators' grasp to effect this level of influence; many argue that even this is a gross underestimate of what educators could truly accomplish. *In any case, strong, effective academic programs at the preschool and early elementary levels will produce better results on student outcomes than weak and ineffective programs.* This is so whether students are of low or high socioeconomic status and despite their cultural and linguistic background. Low socioeconomic status cannot be used as an excuse for failing to increase substantially the number of low-income students reading at acceptable levels. Furthermore, the failure of school remedial programs to close the gap argues for examining more closely the potential of early intervention. It has been estimated that 50 percent of reading difficulties are preventable if students are provided effective language development experiences in preschool and kindergarten and effective reading instruction in the primary grades (Slavin et al., 1996).

Language-Minority Children and Children Speaking Nonstandard Dialects

Children with cultural language barriers present another challenge to efforts promoting early literacy, particularly in California. Lack of proficiency in English upon school entry carries with it a higher risk of reading difficulty (NAEP, 1994). The "language of instruction" topic has been by far the most controversial in the education of English learners: Should non-English-speaking students be taught English skills in English as soon as possible, or should they be taught academic skills in their home language? And if they are to be taught in their home language, for how long? Advocates of teaching in the home language on one extreme say that the longer, more intensively, and more effectively students learn literacy and academic skills in their home language, the better their eventual academic attainment will be *in English* (Thomas & Collier, 1997). In diametric opposition, advocates of English-only instruction say that early, sustained, and effective use of English in the classroom leads to superior attainment in English (Rossell & Baker, 1996).

Despite the 1998 passage of Proposition 227, which made most forms of bilingual education essentially illegal in California, research syntheses have concluded that use of students' home language at school produces superior achievement results (in English) when compared to immersing students exclusively in English (Greene, 1997; Willig, 1985). These syntheses contradict the premises of Proposition 227 and support the idea that teaching a student academic skills and knowledge in his or her home language, then transferring those skills and knowledge to English, is more effective than attempting to teach students in a language they do not understand. However,

it is difficult to determine how much of an effect instruction in the primary language has on student achievement. Greene's meta-analysis suggests the effect is modest, perhaps on the order of 8 percentile points (Greene, 1997). This is not trivial, but only a fraction of the achievement differential between English learners and English speakers in the U.S. A much more compelling case for bilingual education might derive from the inherent benefits of knowing and being literate in two languages (Rossell & Baker, 1996). Unfortunately, the heated debates over bilingual education in this country rarely address this question.

African-American children speaking the African-American vernacular dialect of English (AAVE) face a similar situation, as do speakers of other languages. The research here, however, is much more sparse, and it is unknown whether teaching children to read in AAVE and then transferring to English is superior to teaching literacy in "standard" English from the outset (Snow, Burns, & Griffin, 1998). Similarly, it is not well understood whether making instructional accommodations to children's cultural backgrounds will help improve children's early literacy development (Snow, Burns, & Griffin, 1998). Common sense, as well as research, suggest that sensitivity and accommodation to home and cultural experiences can create a more positive learning environment for children (e.g., Allen & Boykin, 1992; Cazden, 1985; Tharp, 1989), but the effect of cultural accommodation — as distinct from the use of teaching practices that are effective for learners in general — on promoting literacy attainment has not been established.

V. Recommendations

Incorporating a Focus on Emergent Literacy into Early Intervention

The importance of experiences during early childhood for later literacy provide ample justification for the development of public policy addressing literacy in early childhood. This includes primary prevention activities to decrease the incidence (number of new cases) of reading failure by optimizing early literacy and related experiences, secondary prevention activities that reduce the prevalence (number of existing cases of reading failure), and tertiary prevention that seeks to reduce the complications associated with reading failure. Prevention should be conceptualized as a community-wide effort with prevention activities incorporated into a larger, integrative model of early childhood development. This effort and model should stress the *provision of optimal developmental experiences* to all children, address the needs of families in supporting child development, and emphasize establishing continuity with the school system. These activities combine risk reduction and child development promotion strategies that work together to change the trajectory of children's development (see figure on page 14).

Children and families living in communities where the political, economic, health care, and educational infrastructures have joined together to fundamentally support more families, are most likely to benefit from targeted efforts to enhance early literacy experiences. Those professionals with routine and frequent contact with families during early childhood — health care workers, day care workers, and preschool teachers — are in the best position to influence children and families in ways that will make a difference in their literacy.

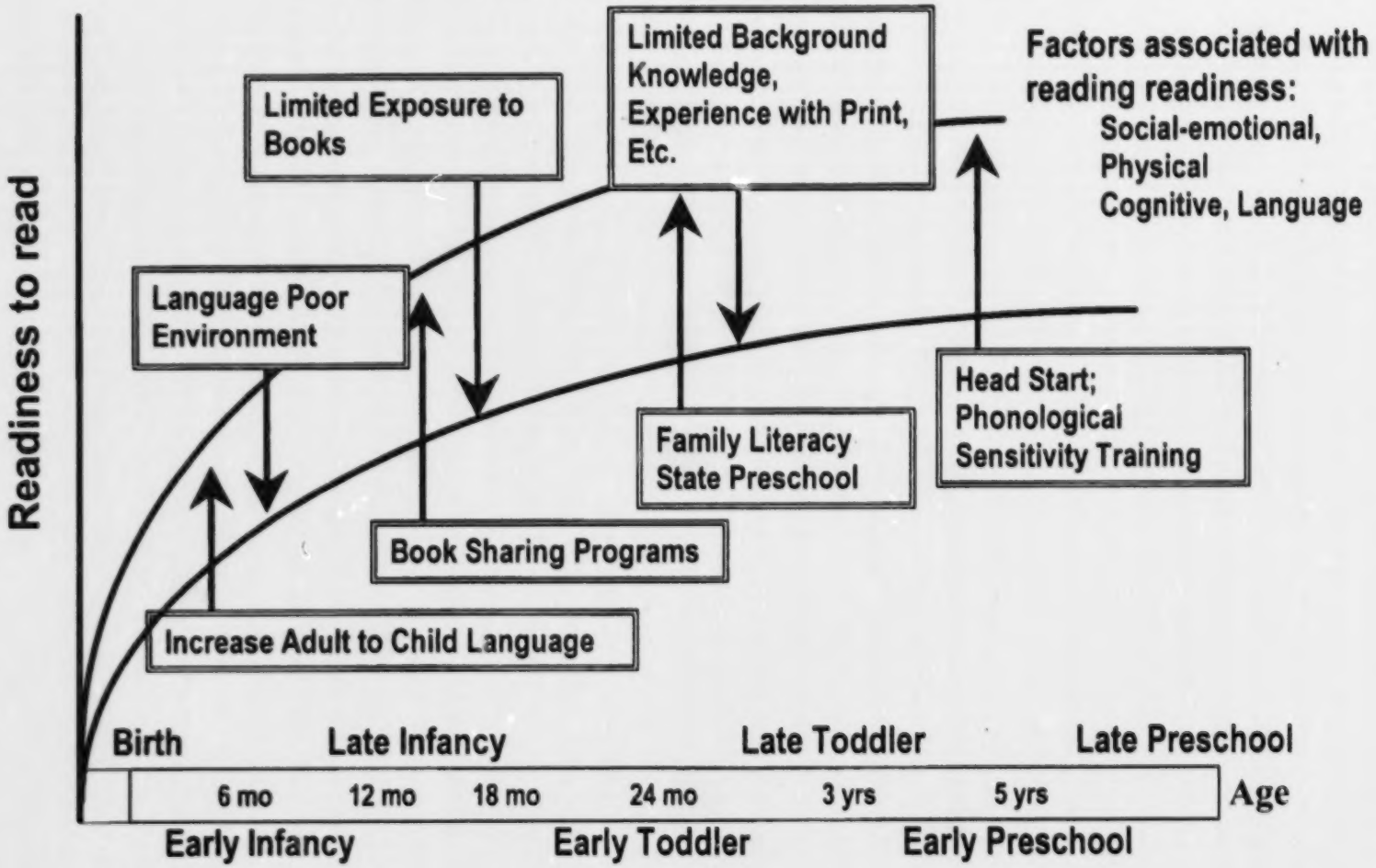
Should measures of early literacy be markers for success of early childhood intervention programs? An important question to address is whether early literacy should be used as a measure of the success of early intervention. Early language and literacy experiences are important to the attainment of conventional literacy. There is no question that efforts to enhance the emergent literacy experiences of young children should be viewed as markers of quality in intervention programs. However, as we and others (e.g., Whitehurst & Lonigan, 1998) point out, optimizing emergent literacy experiences is only part of the process of helping children learn to read. Whitehurst and Lonigan (1998) warn against viewing emergent literacy from a perspective that places undue importance upon early childhood as a *critical* period of cognitive development in learning to read, i.e., one, that if missed, makes reading competence more difficult to achieve. Instead, it is important to understand that early literacy experiences increase the probability that a child will have the necessary skills to manage the expected curriculum with the start of formal schooling, a curriculum that is age-graded rather than skill-graded (Whitehurst & Lonigan, 1998). In other words, a child whose early literacy experiences are deficient is placed at a disadvantage and risks falling behind from the beginning, which can have a long-term impact on the child's self-esteem and motivation to learn beyond its impact upon learning to read. While measures of early literacy vary, the most advisable outcome measures for early intervention programs -- measures of family literacy related behaviors -- may have a role in broader community-wide school readiness initiatives. For example, a community interested in supporting early literacy as part of a comprehensive school readiness initiative might choose to assess the proportion of one-year olds who are being read to each day, the proportion of parents reporting the benefit from pediatric Reach Out and Read programs, or other similar early literacy program efforts.

What specific role should efforts to optimize emergent literacy play in early intervention? Clearly, interventions to enhance the emergent literacy environment of children overlap with interventions to enhance the early cognitive and language environments of children. As mentioned above, several studies have documented effects on later academic achievement, including reading development, as a result of programs that did not specifically target literacy outcomes. To some extent, these effects reflect the importance of language development to later reading proficiency. Beyond this, however, we have outlined other important aspects unique to interventions that enhance children's emergent literacy environments that can be integrated into intervention plans. These include book-sharing activities in the home, activities that increase children's verbal interactions with adults, and other activities that help develop phonological awareness. Also included are intergenerational programs that broaden the focus of intervention to other family members (e.g., Even Start).

Integrating and Coordinating Systems/Programs

Family support systems in communities should promote multi-faceted approaches that are sensitive to the changing needs of families through the course of children's development. These include strategies to identify family strengths and needs continuously, promote a literacy *orientation* within families from infancy, and teach parents and other care providers effective ways of interacting with their children to promote oral language and emergent literacy skills along with other developmental competencies. Educational agencies in California are currently poised to facilitate community collaboration around activities that promote children's learning in the preschool period in several ways.

Improving Reading Readiness Trajectories



Adapted from Halfon N. Social-Emotional Development, School Readiness and the Role of the Pediatrician in BuildingCommunity-Wide, Early Childhood Service Delivery Systems. Pediatric Round Table:Socioemotional Regulation: Dimensions, Developmental Trends and Influences. Johnson and Johnson. In Press.

Local Improvement Plans. All local educational agencies in California that receive federal funds under the Elementary and Secondary Education Act are required to have Local Improvement Plans – planning documents developed in partnerships with schools, parents, families, and communities to administer comprehensive, coordinated integration of federal, state, and local programs to improve the academic achievement and well-being of children. These plans can foster a closer collaboration between health care providers, regional centers, and early intervention programs in order to provide much needed systems-change that will facilitate reaching parents with specific service needs, strengthening early identification efforts, and coordinating ongoing service needs. Improving the quality and impact of the local improvement plans could be an important strategy for Prop 10 Commissioners to pursue.

California Head Start Collaboration Office (CHSSCO). Head Start has traditionally provided federal funding directly to local programs, and is administered within the Department of Health and Human Services, Administration for Children and Families. Through collaboration grants it now is a partner at the state level, able to assist in the development of multi-agency and public-private partnerships. The CHSSCO works with federal and state Head Start departments, technical assistance providers, child care agencies, and the California Department of Education. Its goals include improving access to health care, child care, and family literacy services, and collaboration with welfare systems and early childhood education providers.

Healthy Start is a community-building initiative to create integrated and comprehensive systems of care (health, education, mental health, and social services) to meet the needs of children and families. Planning and operational grants are awarded to local educational agencies and their collaborative partners to restructure fragmented education, health, mental health, employment development, recreation, and social services into integrated and comprehensive systems that are more responsive and accessible to the needs of children and families. In Healthy Start collaboratives, students and families participate in the design and delivery of supports and services.

There were 173 Healthy Start operational and collaborative planning grants in California in 1999-2000. These programs provide an infrastructure within schools for providing learning supports, integrating services to families, and fostering collaboration between different agencies. Building upon the Healthy Start framework, Proposition 10 can be used to bring the needed resources and technology to communities, so that Healthy Start sites can enhance their activities and services relevant to language and literacy development, and organize efforts to improve the early identification of children with language and other developmental disorders that affect the development of literacy.

Integrating and Coordinating Funding

A more comprehensive service system, capable of meeting the early literacy needs of children and families can be served by a number of existing categorical funding streams. The California Department of Education and Department of Health Services have several options by which to pursue strengthening the early literacy effort statewide.

Title I, Part A funds may be used for eligible preschool children most at risk of failing to meet the State's student performance standards. Children who participated in a Head Start or Even Start program at any time in the two preceding years are automatically eligible for Part A services. Participating schools may use Part A funds to operate a preschool program using either the Head Start or Even Start model. Local educational agencies submitting a Title I, Part A plan must describe how they will coordinate and integrate services with other educational services such as Even Start, Head Start, and other preschool programs and must have strategies for assisting preschool children in the transition from early childhood programs. Part A funds may also be used to complement or extend Head Start programs or to meet the local share requirement under Even Start.

Title I, Part B, The Even Start Family Literacy Program, provides (1) adult basic or secondary education and literacy programs for parents, (2) assistance for parents to promote their children's educational development, and (3) early childhood education for children. Even Start projects offer other support services such as transportation, child care, nutrition assistance, health care, meals, referrals for mental health and counseling, etc.

Child Care and State Preschool. The California Department of Education, Child Development Division contracts with public and private agencies to provide comprehensive, coordinated, affordable, and quality child care and development services for children. Children must meet age requirements, and families must meet income and need requirements. First priority for services is given to children referred by Child Protective Services and families with the lowest adjusted monthly incomes. Services include age- and developmentally appropriate activities, nutrition services, parent education, staff development, and social services. State preschool programs include developmentally appropriate activities for children, parenting education and parent involvement, and social services that include identification of child and family need and referrals to appropriate agencies.

Healthy Start planning and operational grants to local educational agencies are sources of funding available to schools to help integrate services across different child- and family-serving systems, as noted above.

MediCal (Title XIX) and the *State Child Health Insurance Program* (Title XXI) cover a large proportion of children most at risk for adverse developmental outcomes. These two governmental programs potentially have a major role in determining what kinds of child development services are provided and paid for in the context of health supervision. Both programs provide funding for routine screening assessments and case management services.

Recommendations for Policy and Practice

The Committee on the Prevention of Reading Difficulties in Young Children (Snow, Burns and Griffin, 1998) has outlined three recommendations that address literacy development during the preschool years – promoting language and emergent literacy development, identifying children at risk for reading problems, and increasing public awareness and understanding. We provide some guidelines for approaching these recommendations.

❖ Recommendation 1: Promote Language and Literacy Development

Problem Statement

Parents of children newborn to 5 years old come into contact with a variety of service providers who can also serve as access points to an integrated system geared to promote early language and literacy development. In the first 3 years, parents come into contact with health care providers regularly; however, most do not address basic child development activities as part of health supervision, including helping parents with ways to promote their children's learning (Schuster et al., 2000). Time constraints, low reimbursement in general, and lack of specific funding for health promotion activities addressing child development have been cited as barriers (Halfon et al., 2000). To variable degrees, other key contacts include day care providers, early intervention programs, parenting programs, and preschools, all of whose activities vary with respect to early literacy and language development. A set of linked strategies to enhance children's early language development, promote an understanding of the alphabetic principle, and shape attitudes in favor of a literacy orientation can be directed toward parents and other caregivers as part of a community-wide effort by this network of community-based organizations and service providers.

Strategies

- *Enhance service provision for parents of children, birth to 3 years, to promote language development and literacy orientation.* Strategies for the first 3 years should be viewed differently from those intended for preschool children. During the first 3 years of life, maternal factors and efforts to help parents interact with their infants and toddlers in positive and cognitively stimulating ways have a significant impact on child development (Casey & Whitt, 1980; Chamberlin et al., 1979). Proposition 10 may contribute to needed change at this important entry point. Alternative service delivery models (e.g., the Healthy Steps Program, group well-child care, book distribution programs) have been developed recently to increase the effectiveness of health care providers in the delivery of developmental services. These models may increase the efficiency of the health care system for primary prevention activities, and for providing access to services. Expanding the collaborative effort between health care, education, and other nonmedical providers (e.g., WIC Early Head Start) during the first 3 years in order to expand child development services and family services is another important strategic goal.

- *Expand the accessibility and quality of preschool teacher/provider training in early literacy development.* During the preschool period, child-focused activities become more important than parent-focused efforts. Proposition 10 may be instrumental in expanding the accessibility of and enhancing teacher/provider training in existing programs for low-income families such as State Preschool, Head Start and Even Start. The State Superintendent of Public Instruction has released the *Pre-kindergarten Learning and Development Guidelines*, a resource for educators in providing quality pre-kindergarten programs to children ages three through five years and pre-kindergarten grade-level skill benchmarks for language arts have been developed in *Teaching Reading*, a program advisory on early reading instruction (California Department of Education, 1996). Finally,i ncreasing the accessibility of preschool is an important goal . Indeed, the State Superintendent's Universal Preschool Task Force recommended that California "offer publicly

funded universal preschool within ten years to all three- and four-year-old children in California for at least half the day during the regular school year" (California Department of Education 1998).

An example of how one community-based organization has integrated and coordinated different programs to promote literacy development is the Hope Street Family Center in Los Angeles.

Hope Street Family Center
Los Angeles, CA

The Hope Street Family Center is a comprehensive resource center serving families living in the downtown Los Angeles area. Established initially as a collaboration between UCLA and the California Hospital Medical Center, Hope Street has expanded its funding base and developed partnerships with a range of health professionals, educators, and government agencies to provide services targeting adult literacy, children's health and development, and early literacy. Hope Street utilizes funding from federal and state-funded programs, Proposition 10, and private foundations, including UniHealth, Brize Foundation, National Center for Family Literacy, and Liberty Hill. Brief descriptions of the educational programs offered through the Hope Street Family Center include:

Early Head Start, a federally funded program for children from birth to age 3, focuses on child development and early intervention to identify and address problems that may affect children's future educational success. Families receive weekly home visits tailored to meet the specific needs of individual families. Home visitors provide lesson plans and materials to help parents support their child's development and encourage literacy-related parent-child interactions.

Even Start, funded through the California Department of Education, builds upon the Early Head Start program and represents a cooperative effort between the California Hospital Medical Center and the Los Angeles Unified School District Adult School. Even Start is a comprehensive center-based family literacy program that integrates adult literacy, parenting education, and early childhood education for families with children from birth to age 8. The program is designed to help parents develop and value their own literacy skills in order to assume the role of their child's first teacher and to engage in behaviors that will enhance language development and support their child's educational success. While parents participate in parenting and adult education classes, their children are exposed to a language-enriched curriculum in classes for infants, toddlers, and preschool-age children. The Parent and Child Together (PACT) time component of the family literacy program provides opportunities for parents to practice their parenting or teaching skills with guidance from the Even Start staff.

HOSTS Enrichment Program, staffed by volunteers, is an after-school mentoring program offering educational, recreational, and cultural activities for the school-age siblings of Even Start and Early Head Start families. Volunteers from UCLA, California Hospital, and downtown offices provide one-on-one tutoring to help students reading below grade level.

For more information, contact Vicki Kropenske, PHN, Program Director of the Hope Street Family Center, (213) 742-6385.

❖ **Recommendation 2: Identify Children at Risk for Low Literacy**

Problem Statement

Efforts should be expanded toward identifying children with known risk factors for reading difficulties and toward identifying those families in greatest need of services. As noted above, there are several aspects of literacy development that may enable targeted intervention at different times during the first five years, most notably, children with delayed language and language disorders. During the first five years of life, much of this responsibility has been given to health care providers, who have not been effective in identifying children at risk for learning problems, the vast majority of which are reading disorders. Most children with learning disabilities (about 75%) are identified after they begin school (Palfrey et al., 1987). There are many possible reasons for this, including improper administration and interpretation of office assessments, the use of invalidated approaches, a "wait-and-see" attitude to developmental issues in general, etc. (Glascoe & VanDervoort, 1985). Other barriers exist in the service system, which remains highly fragmented and largely inaccessible. Confusion remains about where to send children for diagnostic assessments and for appropriate developmental services. Very little information exists about the nature and impact of this problem.

An important question is the whether there should be universal screening for speech and language problems, given the relationship between language development and later reading proficiency. At present, there is insufficient evidence about the accuracy and cost-effectiveness of language screening to recommend universal screening as a strategy for the identification of speech and language delays (Law et al., 2000). Furthermore, the well-known inadequacy of developmental screening tests in general makes it highly questionable that any type of mass screening approach would ever be practical or feasible (Dworkin, 1989). Although evidence is lacking, there are a few alternatives to consider.

Strategies

- *Improve health care child development surveillance.* Law et al. (2000) suggest three alternatives to mass screening approaches. (1) *Confirmatory screening* conceptualizes early identification as a two-stage process: eliciting concern from the parent, followed by an appropriately designed measure to assess that concern. An accurate second-stage test could be used to identify those children with true problems. The Parents' Evaluation of Developmental Status, or PEDS (Glascoe, 1991), provides a time-efficient assessment of parents' concerns about development and behavior and is accurate in identifying language problems as well as developmental problems in general (Glascoe, 1991; 1997). This measure is easy to administer and score and may be employed in settings outside the medical office, e.g., day care and WIC centers. Data from Law's study suggest that parent-focused measures may be sensitive as screening tests and that the specificity for screening procedures tends to be high (i.e. the ability to rule out true negatives) and more robust than sensitivity (the ability to accurately identify true positives). (2) Another alternative is to target subgroups who have a higher risk for later problems. This approach theoretically could identify those most in need of help, resulting in more efficient use of resources. (3) Finally, health care providers should also direct attention to other factors relevant to the risk for reading problems. A family history should specifically address dyslexia,

language problems, or learning disabilities that warrant closer surveillance. Systematic approaches to psychosocial assessment are also available to identify parenting risk factors (Regalado & Halfon, in press).

- *Improve interagency collaboration and care coordination to ensure access to interventions.* Proposition 10 funding provides an opportunity to revisit interagency collaboration and care coordination, particularly between regional centers and the education system, for children with special needs. Since Part H planning activities for IDEA a decade ago, efforts within the education system have been made to address the needs of children with developmental problems and those at risk for developmental disability. However, diagnostic and intervention services are often difficult to access, and the current delivery system has both discontinuities and resulting bottlenecks. In California, regional centers manage early intervention diagnostic and intervention services for children birth to 3 years. With a more intensified focus on identifying language problems early, more referrals will come to regional centers from the 2- to 3-year-old age group when the focus of regional centers is directed toward transitioning children out of early intervention services by age 3 years. This creates a disincentive for regional centers to begin services that would be disrupted at age 3. Clarifying this process, defining diagnostic and case management responsibilities between the different service agencies, and estimating increases in the service load are important considerations before implementing more intensive identification activities.

❖ **Recommendation 3: Increase Public Awareness and Understanding of Early Literacy Development**

Problem Statement

Incorporating strategies to enhance literacy-readiness during early childhood will require change in public policy priorities, the practices of health care and child care professionals, early childhood educational approaches, and teacher/caregiver competencies, as well as changes in the behavior of individual parents. All require an appreciation for the importance of early literacy experiences and the development of certain skills and competencies in early childhood as they pertain to later competency in reading.

Strategies

- *Social marketing* techniques, "the use of marketing principles and techniques to advance a social cause, idea, or behavior" (Kotler & Roberto, 1989, p. 24), can be used to conduct targeted and wide-ranging public awareness campaigns (see Glik and Schilt, 2001). Previous and ongoing attempts to disseminate knowledge and change behaviors, e.g., the hazards of smoking and smoking cessation, use of seat belts, childhood immunizations, promoting healthy eating, and reducing drinking and driving, provide extremely useful starting points for thinking about effecting broad-based changes in literacy practices with young children. *Illiteracy and low levels of literacy attainment deserve focused and sustained attention comparable to campaigns aimed at encouraging people to stop smoking.* These campaigns would be aimed at informing potential partners (e.g., preschool teachers, physicians, and other health care professionals, social workers,

child care workers) and the general public about what can be done to promote language and literacy development during the first 5 years of life and the specific roles they can play.

- *Individual counseling, informational handouts, and book distribution programs* are effective strategies for increasing individual awareness of a variety of issues and for changing parents' behavior, at least in the short term. They can be employed in different settings, e.g., in the doctor's office, at a public agency, or during a home visit. One of the more promising interventions to change the literacy orientation of families is the Reach Out and Read Program. As stated earlier, this program was developed for pediatric offices to promote book sharing activities in families. Earlier evaluations emphasized the efficacy of the program for promoting book-sharing activities in the short term. More recent evaluations of the program have documented beneficial effects on children's language development (Golova et al., 1999; High et al., 2000), underscoring the potential of these types of early efforts.

Incorporating these activities into the activity stream of everyday business will require some planning to be effective. For example, handouts are more effective in pediatric practice when the content is discussed by the professional (Glascoe et al., 1998). Developing a Reach Out and Read Program requires a staff comfortable with and competent in its knowledge of child development as well as an orientation and commitment to promoting early child development within the pediatric practice. It would be naïve, however, to think that these types of strategies would be sufficient to sustain behavioral change that makes a difference for those families in greatest need of help in the long run. Parents likely to be targeted for intervention on the basis of environmental risk factors have many barriers to overcome and competing priorities to deal with. Indeed, effective models for sustaining change in parental behavior have not been widely used in primary intervention settings. The psychological literature suggests that supporting behavioral change, such as one toward a greater emphasis on literacy in everyday activities with children, is a continuous process, requiring ongoing behavioral counseling, a skill (Miller & Rollnick, 1991) that many human service professionals do not receive in their training. Strategies that propose to affect parental attitudes, motivation, and behavior change must address professional training needs to be maximally effective.

Summary

We have provided an overview of early literacy development, factors impacting its course, and challenges to address in promoting child developmental trajectories that lead to reading readiness in elementary school. In the process, we highlighted the important relationship between early language development and later reading and some of the controversy surrounding this topic. Suggestions were presented for strategies to organize community-based efforts and funding streams for sustaining programs that would target early childhood language and literacy development. This document represents only a starting point to orient families, professionals, policy makers, and communities toward a greater appreciation of the opportunities available during early childhood for promoting literacy in children and families as well as the challenges along the way.

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VII. Appendix A: Useful Organizations and Contacts

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Elementary Teaching and Learning Division
721 Capitol Mall, Third Floor
P. O. Box 944272
Sacramento, CA 94244-2720
State Superintendent of Public Instruction
Telephone: (916) 657-4766

Even Start Family Literacy Program
Consultants: Gloria Guzman-Walker and Salvador Arriaga
721 Capitol Mall
Sacramento, CA 94244-2720
(916) 657 -3700

National Even Start Association
Director: Scott Himelstein
123 Camino de la Reina, #202 South
San Diego, CA 92108
Telephone: (800) 977-3731
http://www.NESA.org

Los Angeles Unified School District, Adult School Division
Delores Diaz Carrey
Director of Instructional Services
1320 West Third Street
Los Angeles, CA 90017
Telephone: (213) 202-5450

National Center for Family Literacy
Waterfrom Plaza, Suite 200
325 West Main Street
Louisville, KY 40202-4251
Telephone (502) 584-1133
http://www.famlit.org

California Reading Association
Executive Offices
3186 D-1 Airway
Costa Mesa, CA 92626
Telephone: (714) 435-1983
Fax: (714) 435-0269
http://www.californiareads.org
Administrative Director: Kathy Belange

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